INDEX OF AUTHORS

VOLUME XXII

TRANSACTIONS OF AMERICAN SOCIETY FOR METALS

January, 1934—December, 1934

A

Arganbright, A. B. 471
Austin, J. B. 31, 447

B

Baeyertz, M. 625
Bain, E. C. 289, 879
Boston, O. W. 547
Buechling, W. J. 249
Burns, J. L. 728

C

Chipman, John 385
Clark, C. L. 481, 1069

D

Davenport, E. S. 289, 879
Delammatter, W. W. 120
Dowdell, R. L. 19, 737, 810

E

Ellis, Owen W. 139
Epstein, S. 942

F

Findley, J. K. 1
Fleming, William R. 532

G

Gilbert, W. W. 547
Graham, H. W. 926
Greene, O. V. 311
Grossmann, M. A. 861

H

Harrington, Richards H. 505
Harvey, C. L. 657
Hughes, T. P. 737

J

Jennings, W. H. 751
Johnson, E. R. 249

K

Kenyon, Reid L. 1099

L

Ludewig, Joseph W. 833
Luerssen, G. V. 311

M

McQuaid, H. W. 1017
Marshall, A. L. 605
Mawhinney, M. H. 673
Morken, Carl H. 227

N

Nead, J. H. 942
Nelson, L. H. 193
Nielsen, H. P. 810
Norton, John T. 271

P

Pennington, W. A. 751
Pierce, Jr., R. H. H. 447
Polushkin, E. P. 635

R

Rickett, R. L. 347
Roff, E. L. 289
Ruder, W. E. 1120

S

Sanders, W. E. 1051
Sauveur, Albert 97
Schane, Jr., Philip 1038
Schowalter, A. E. 120
Schwartz, H. A. 120
Scott, Howard 68, 577, 1142
Shepherd, B. F. 979

T

Thomassen, L. 769

U

Upton, G. B. 690

W

Washburn, T. S. 942
White, A. E. 481, 1069
Wills, W. H. 1
Wilson, J. E. 769
Wood, W. P. 347

Z

Ziegler, Alfred 271

INDEX OF SUBJECTS AND AUTHORS OF PAPERS

VOLUME XXII

TRANSACTIONS OF AMERICAN SOCIETY FOR METALS

January, 1934—December, 1934

A

Action of Oxygen and Hydrogen Sulphide Upon Iron-Chromium Alloys at High Temperatures—*R. L. Rickett and W. P. Wood* 347
Age-Hardening; The Present Status of—*Richards H. Harrington* 505
Aging of Metals and Alloys; Notes on—*Albert Sauveur* 97
Alloy Steel; The Structure and Constitution of An—*Owen W. Ellis*.... 139
Alloys at High Temperatures; The Action of Oxygen and Hydrogen Sulphide Upon Iron-Chromium—*R. L. Rickett and W. P. Wood* 347
Alloys; Notes on the Aging of Metals and Alloys—*Albert Sauveur* 97
Alloys; X-Ray Broadness of Metals and Alloys and its Relation to High Temperature Stability—*J. E. Wilson and L. Thomassen*..... 769
Alpha-Gamma Transformation Temperature (A_3 point) of Pure Iron; Linear Thermal Expansion and—*J. B. Austin and R. H. H. Pierce, Jr.* 447
Analogy Between Plastic Deformation and Certain Cooling Rates in Causing "Premature" Precipitation in Supersaturated Solid Solutions—The Incubation Period—Part I—*J. L. Burns* 728
Annealing; Bright Annealing of Steel in Mixed Gas Atmospheres—*A. L. Marshall* 605
Application of Thermodynamics to the Deoxidation of Liquid Steel—*John Chipman* 385
Atmospheres; Bright Annealing of Steel in Mixed Gas Atmospheres—*A. L. Marshall* 605
Austenite; Effect of Thermal Stresses on Austenite—*H. P. Nielsen and R. L. Dowdell* 810
Austenite; Grain-Size in Metals, with Special Reference to Grain Growth in Austenite—*M. A. Grossmann* 861
Austenite; The Habits and Laws of Decomposition of Supercooled Solutions, with Special Regard to Austenite—*G. B. Upton* 690
Automotive Steels; Effect of McQuaid-Ehn Grain-Size on Hardness and Toughness of—*H. W. McQuaid* 1017

B

Banding in a Chromium-Molybdenum Steel; A Study of—*E. R. Johnson and W. J. Buechling* 249
Basic Open-Hearth Carbon Steel for Cold Heading—"Ingot to Wire"—*A. B. Arganbright* 471
Bessemer Screw Steel; Grain-Size in Relation to Machinability and Other Properties of—*H. W. Graham* 926
Bolts; The Effect of Cold Working on the Physical Properties of Cold-Headed—*C. L. Harvey* 657
Bright Annealing of Steel in Mixed Gas Atmospheres—*A. L. Marshall* .. 605

C

Carbon Steel for Cold Heading—"Ingot to Wire"; Basic Open-Hearth —*A. B. Arganbright* 471

Carbon Steel Tubes; Effect of Cold Work on the Microstructure of Low —*E. P. Polushkin* 635
Carbon Steels; Factors Determining the Impact Resistance of Hardened Carbon Steels—*Howard Scott* 1142
Carbon Steels; Grain-Size Control of Open-Hearth Carbon Steels—*S. Epstein, J. H. Nead and T. S. Washburn* 942
Carbon Tool Steel; The Torsion Impact Properties of Hardened—*G. V. Luerssen and O. V. Greene* 311
Cast Iron; The Determination of the Rates of Graphitization at 925 Degrees Cent. in Tungsten-Manganese White Cast Iron—*W. A. Pennington and W. H. Jennings* 751
Cast Iron; The Heat Treatment of—*Carl H. Morken* 227
Characteristic of Steel; The P-F—*B. F. Shepherd* 979
Chromium-Iron Alloys at High Temperatures; The Action of Oxygen and Hydrogen Sulphide Upon—*R. L. Rickett and W. P. Wood* 347
Chromium-Molybdenum in Steel; A Study of Banding in a—*E. R. Johnson and W. J. Buechling* 249
Chromium-Nickel Steel Wire; Some Factors Affecting the Physical Properties and Corrosion Resistance of 18-8—*W. H. Wills and J. K. Findley* 1
18-8 Chromium-Nickel Steel Wire; Some Factors Affecting the Physical Properties and Corrosion Resistance of 18-8—*W. H. Wills and J. K. Findley* 1
Chromium Oxide Inclusions in Stainless Steel and Ferrochromium—*M. Baeyertz* 625
Cold-Headed Bolts; The Effect of Cold Working on the Physical Properties of—*C. L. Harvey* 657
Cold Heading—"Ingot to Wire"; Basic Open-Hearth Carbon Steel for—*A. B. Arganbright* 471
Cold Work on the Microstructure of Low Carbon Steel Tubes; Effect of —*E. P. Polushkin* 635
Cold Working; The Effect of Cold Working on the Physical Properties of Cold-Headed Bolts—*C. H. Harvey* 657
Comparison of Single-Step Long-Time Creep Results with Hatfield's Time-Yield Stress—*A. E. White and C. L. Clark* 481
Composition and Critical Temperature of Pearlite Containing One Per Cent Silicon—*A. E. Schowalter and W. W. Delammatter with H. A. Schwartz* 120
Constitution of an Alloy Steel; Structure and—*Owen W. Ellis* 139
Cooling Rates; Analogy Between Plastic Deformation and Certain Cooling Rates in Causing "Premature" Precipitation in Supersaturated Solid Solutions—The Incubation Period—Part I—*J. L. Burns* 728
Corrosion Resistance of 18-8 Chromium-Nickel Steel Wire; Some Factors Affecting the Physical Properties and—*W. H. Wills and J. K. Findley* 1
Cracks; Microscopic Cracks in Hardened Steel, Their Effects and Elimination—*E. S. Davenport, E. L. Roff and E. C. Bain* 289
Creep Results with Hatfield's Time-Yield Stress; Comparison of Single-Step Long-Time—*A. E. White and C. L. Clark* 481
Critical Temperature; Composition and Critical Temperature of Pearlite Containing One Per Cent Silicon—*A. E. Schowalter and W. W. Delammatter with H. A. Schwartz* 120
Cylinders; Some Problems of Quenching Steel—*Howard Scott* 68

D

Decarburization of Steel by Hydrogen with Certain Developments in Gas Purification; A Study of the Effect of Water Vapor on the Surface—*C. R. Austin* 31
Decomposition of Supercooled Solutions, with Special Regard to Austenite; The Habits and Laws of—*G. B. Upton* 690
Deformation; Analogy Between Plastic Deformation and Certain Cooling Rates in Causing "Premature" Precipitation in Supersaturated Solid Solutions—The Incubation Period—Part I—*J. L. Burns* 728

Deep Drawing; Importance of Grain-Size of Sheet Steel for—*Reid L. Kenyon* 1099
Deoxidation of Liquid Steel; Application of Thermodynamics to the—*John Chipman* 385
Determination of the Rates of Graphitization at 925 Degrees Cent. in Tungsten-Manganese White Cast Iron—*W. A. Pennington and W. H. Jennings* 751
Developments in Gas Purification; A Study of the Effect of Water Vapor on the Surface Decarburization of Steel by Hydrogen with Certain—*C. R. Austin* 31

E

Effect of Cold Work on the Microstructure of Low Carbon Steel Tubes—*E. P. Polushkin* 635
Effect of Cold Working on the Physical Properties of Cold-Headed Bolts—*C. L. Harvey* 657
Effect of McQuaid-Ehn Grain-Size on Hardness and Toughness of Automotive Steels—*H. W. McQuaid* 1017
Effect of McQuaid-Ehn Grain-Size of Steel in Forging—*W. E. Sanders* 1051
Effects of McQuaid-Ehn Grain-Size on the Structure and Properties of Steel—*Philip Schane, Jr.* 1038
Effect of Thermal Stresses on Austenite—*H. P. Nielsen and R. L. Dowdell* 810
Effect of Water Vapor on the Surface Decarburization of Steel by Hydrogen with Certain Developments in Gas Purification; Study of—*C. R. Austin* 31

F

Factors Affecting the Physical Properties and Corrosion Resistance of 18-8 Chromium-Nickel Steel Wire—*W. H. Wills and J. K. Findley* 1
Factors Determining the Impact Resistance of Hardened Carbon Steels—*Howard Scott* 1142
Ferrochromium; A Note on Chromium Oxide Inclusions in Stainless Steel and—*M. Baeyertz* 625
Ferrous and Nonferrous Alloys; Influence of Grain-Size on the High Temperature Characteristics of—*A. E. White and C. L. Clark* 1069
Forging; The Effect of McQuaid-Ehn Grain-Size of Steel in Forging—*W. E. Sanders* 1051
Fuel-Fired Furnaces; Heat Transfer Rates in—*M. H. Mawhinney* 673
Furnaces; Heat Transfer Rates in Fuel-Fired—*M. H. Mawhinney* 673

G

Gamma-Ray Method of Radiograph; Sensitivity of the—*John T. Norton and Alfred Ziegler* 271
Gas Atmospheres; Bright Annealing of Steel in Mixed—*A. L. Marshall*.. 605
Gas Purification; A Study of the Effect of Water Vapor on the Surface Decarburization of Steel by Hydrogen with Certain Developments in—*C. R. Austin* 31
General Relations Between Grain-Size and Hardenability and the Normality of Steels—*E. S. Davenport and E. C. Bain* 879
Grain Growth in Austenite; Grain-Size in Metals, with Special Reference to—*M. A. Grossmann* 861
Grain-Size Control of Open-Hearth Carbon Steels—*S. Epstein, J. H. Nead and T. S. Washburn* 942
Grain-Size; General Relations Between Grain-Size and Hardenability and the Normality of Steels—*E. S. Davenport and E. C. Bain* 879
Grain-Size in Metals, with Special Reference to Grain Growth in Austenite—*M. A. Grossmann* 861

Grain-Size in Relation to Machinability and Other Properties of Bessemer Screw Steel—*H. W. Graham* 926
Grain-Size in Sheet Steel for Deep Drawing; Importance of—*Reid L. Kenyon* 1099
Grain-Size of Steel in Forging; The Effect of McQuaid-Ehn—*W. E. Sanders* 1051
Grain-Size on Hardness and Toughness of Automotive Steels; Effect of McQuaid-Ehn—*H. W. McQuaid*..... 1017
Grain-Size on High Temperature Characteristics of Ferrous and Nonferrous Alloys; Influence of—*A. E. White and C. L. Clark* 1069
Grain-Size on Magnetic Properties; The Influence of—*W. E. Ruder* 1120
Grain-Size on Structure and Properties of Steel; Effects of McQuaid-Ehn—*Philip Schane, Jr.* 1038
Graphitization at 925 Degrees Cent. in Tungsten-Manganese White Cast Iron; The Determination of the Rates of—*W. A. Pennington and W. H. Jennings* 751

H

Habits and Laws of Decomposition of Supercooled Solutions, with Special Regard to Austenite—*G. B. Upton* 690
Hardenability; General Relations Between Grain-Size and Hardenability and the Normality of Steels—*E. S. Davenport and E. C. Bain* 879
Hardened Carbon Steels; Factors Determining the Impact Resistance of —*Howard Scott* 1142
Hardened Carbon Tool Steel; The Torsion Impact Properties of—*G. V. Luerssen and O. V. Greene*..... 311
Hardening Cracks; Microscopic Cracks in Hardened Steel, Their Effects and Elimination—*E. S. Davenport, E. L. Roff and E. C. Bain* 289
Hardening of Steel; The Problem of Quenching Media for the—*Howard Scott* 577
Hardness and Toughness of Automotive Steels; Effect of McQuaid-Ehn Grain-Size on—*H. W. McQuaid* 1017
Hatfield's Time-Yield Stress; Comparison of Single-Step Long-Time Creep Results with—*A. E. White and C. L. Clark* 481
Heat Transfer Rates in Fuel-Fired Furnaces—*M. H. Mawhinney* 673
Heat Treating; The Problem of Quenching Media for the Hardening of Steel—*Howard Scott* 577
Heat Treatment of Cast Iron—*Carl H. Morken* 227
Heat Treatment; Quenching Steel in Hot Lead—*T. P. Hughes and R. L. Dowdell* 737
High Temperature Characteristics on Ferrous and Nonferrous Alloys; Influence of Grain-Size on the—*A. E. White and C. L. Clark* 1069
High Temperature Stability; X-Ray Line Broadness of Metals and Alloys and its Relation to—*J. E. Wilson and L. Thomassen* 769
High Temperature; The Action of Oxygen and Hydrogen Sulphide upon Iron-Chromium Alloys—*R. L. Rickett and W. P. Wood* 347
Hydrogen Suphide; The Action of Oxygen and Hydrogen Sulphide Upon Iron-Chromium Alloys at High Temperatures—*R. L. Rickett and W. P. Wood* 347
Hydrogen with Certain Developments in Gas Purification; A Study of the Effect of Water Vapor on the Surface Decarburization of Steel—*C. R. Austin* 31

I

Impact Resistance of Hardened Carbon Steels; Factors Determining—*Howard Scott* 1142
Importance of Grain-Size of Sheet Steel for Deep Drawing—*Reid L. Kenyon* 1099
Impact Properties of Hardened Carbon Tool Steel; The Torsion—*G. V. Luerssen and O. V. Greene* 311

Inclusions in Stainless Steel and Ferrochromium; A Note on Chromium Oxide—*W. Baeyertz* 625
Incubation Period—Part I; Analogy Between Plastic Deformation and Certain Cooling Rates in Causing "Premature" Precipitation in Supersaturated Solid Solutions—*J. L. Burns* 728
Influence of Grain-Size on the High Temperature Characteristics of Ferrous and Nonferrous Alloys—*A. E. White and C. L. Clark* 1069
Influence of Grain-Size on Magnetic Properties—*W. E. Ruder* 1120
Ingot Molds; Solidification of Steel in—*L. H. Nelson* 193
"Ingot to Wire"; Basic Open-Hearth Carbon Steel for Cold Heading—*A. B. Arganbright* 471
Investigation of the Treatment of Steel for Permanent Magnets—Part II—*R. L. Dowdell* 19
Iron-Chromium Alloys at High Temperatures; The Action of Oxygen and Hydrogen Sulphide upon—*R. L. Rickett and W. P. Wood* 347
Iron; The Determination of the Rates of Graphitization at 925 Degrees Cent. in Tungsten-Manganese White Cast Iron—*W. A. Pennington and W. H. Jennings* 751
Iron; The Heat Treatment of Cast Iron—*Carl H. Morken* 227

L

Laws of Decomposition of Supercooled Solutions, with Special Regard to Austenite; The Habits and—*G. B. Upton* 690
Lead; Quenching Steel in Hot Lead—*T. P. Hughes and R. L. Dowdell* .. 737
Life of Turning Tools as Influenced by Shape—*O. W. Boston and W. W. Gilbert* 547
Line Broadness; X-Ray Line Broadness of Metals and Alloys and its Relation to High Temperature Stability—*J. E. Wilson and L. Thomassen* 769
Linear Thermal Expansion and Alpha-Gamma Transformation Temperature (A_3 point) of Pure Iron—*J. B. Austin and R. H. H. Pierce, Jr.* 447
Liquid Steel; Application of Thermodynamics to the Deoxidation of—*John Chipman* 385
Long-Time Creep Results with Hatfield's Time-Yield Stress; Comparison of Single-Step—*A. E. White and C. L. Clark* 481
Low Carbon Steel Tubes; Effect of Cold Work on the Microstructure of—*E. P. Polushkin* 635

M

Machinability; Grain-Size in Relation to Machinability and Other Properties of Bessemer Screw Steel—*H. W. Graham* 926
Magnet Steel; Influence of Grain-Size on Magnetic Properties—*W. E. Ruder* 1120
Magnetic Properties; The Influence of Grain-Size on—*W. E. Ruder* 1120
Magnets—Part II—Investigation of the Treatment of Steel for—*R. L. Dowdell* 19
Manganese-Tungsten White Cast Iron; The Determination of the Rates of Graphitization at 925 Degrees Cent. in—*W. A. Pennington and W. H. Jennings* 751
Manufacture of Rimming Steel—*William R. Fleming* 532
McQuaid-Ehn Grain-Size on Hardness and Toughness of Automotive Steels; Effect of—*H. W. McQuaid* 1017
McQuaid-Ehn Grain-Size of Steel in Forging; Effect of—*W. E. Sanders* 1051
McQuaid-Ehn Grain-Size on the Structure and Properties of Steel; Effects of—*Philip Schane, Jr.* 1038
Metals and Alloys; Notes on the Aging of—*Albert Sauveur* 97
Metals and Alloys; X-Ray Line Broadness of Metals and Alloys and its Relation to High Temperature Stability—*J. E. Wilson and L. Thomassen* 769

Microscopic Cracks in Hardened Steel, Their Effects and Elimination—*E. S. Davenport, E. L. Roff and E. C. Bain* 289
Miscrostructure of Low Carbon Steel Tubes; Effect of Cold Work on the—*E. P. Polushkin* 635
Moduli Variations; Torsional Moduli Variations of Spring Materials with Temperature—*Joseph W. Ludewig* 833
Molds; Solidification of Steel in Ingot Molds—*L. H. Nelson* 193
Molybdenum-Chromium in Steel; A Study of Banding in a—*E. R. Johnson and W. J. Buechling* 249

N

Nickel-Chromium Steel Wire; Some Factors Affecting the Physical Properties and Corrosion Resistance of 18-8—*W. H. Wills and J. K. Findley* 1
Normality of Steels; General Relations Between Grain-Size and Hardenability and the—*E. S. Davenport and E. C. Bain* 879
Note on Chromium Oxide Inclusions in Stainless Steel and Ferrochromium—*M. Baeyertz* 625
Notes on the Aging of Metals and Alloys—*Albert Sauveur* 97

O

On the Manufacture of Rimming Steel—*William R. Fleming* 532
Open-Hearth Carbon Steel for Cold Heading—"Ingot to Wire"; Basic—*A. B. Arganbright* 471
Open-Hearth Carbon Steels; Grain-Size Control—*S. Epstein, J. H. Nead and T. S. Washburn* 942
Oxide Inclusions in Stainless Steel and Ferrochromium; A Note on Chromium—*M. Baeyertz* 625
Oxygen and Hydrogen Sulphide Upon Iron-Chromium Alloys at High Temperatures; Action of—*R. L. Rickett and W. P. Wood* 347

P

Pearlite Containing One Per Cent Silicon; The Composition and Critical Temperature of—*A. E. Schowalter and W. W. Delammatter with H. A. Schwartz* 120
Permanent Magnets—Part II—Investigation of the Treatment of Steel for—*R. L. Dowdell* 19
P-F Characteristic of Steel—*B. F. Shepherd* 979
Physical Properties of Cold-Headed Bolts; The Effect of Cold Working on the—*C. L. Harvey* 657
Physical Properties: Some Factors Affecting the Physical Properties and Corrosion Resistance of 18-8 Chromium-Nickel Steel Wire—*W. H. Wills and J. K. Findley* 1
Plastic Deformation; Analogy Between Plastic Deformation and Certain Cooling Rates in Causing "Premature" Precipitation in Supersaturated Solid Solutions—The Incubation Period—Part I—*J. L. Burns* 728
"Premature" Precipitation in Supersaturated Solid Solutions—The Incubation Period—Part I; Analogy Between Plastic Deformation and Certain Cooling Rates in Causing—*J. L. Burns* 728
Present Status of Age-Hardening—*Richards H. Harrington* 505
Problem of Quenching Media for the Hardening of Steel—*Howard Scott* 577
Problems of Quenching Steel Cylinders—*Howard Scott* 68
Properties of Hardened Carbon Tool Steel; The Torsion Impact—*G. V. Luerssen and O. V. Greene* 311
Properties of Steel; Effects of McQuaid-Ehn Grain-Size on the Structure—*Philip Schane, Jr.* 1038

Pure Iron; The Linear Thermal Expansion and Alpha-Gamma Transformation Temperature (A_3 point) of—*J. B. Austin and R. H. H. Pierce, Jr.* 447
Purification; A Study of the Effect of Water Vapor on the Surface Decarburization of Steel by Hydrogen with Certain Developments in Gas Purification—*C. R. Austin* 31

Q

Quenching Media for the Hardening of Steel; Problem of—*Howard Scott* 577
Quenching Steel Cylinders; Some Problems of—*Howard Scott* 68
Quenching Steel in Hot Lead—*T. P. Hughes and R. L. Dowdell* 737

R

Radiography; Sensitivity of the Gamma-Ray Method of—*John T. Norton and Alfred Ziegler* 271
Rates in Fuel-Fired Furnaces; Heat Transfer—*M. H. Mawhinney* 673
Rates of Graphitization at 925 Degrees Cent. in Tungsten-Manganese White Cast Iron; Determination of—*W. A. Pennington and W. H. Jennings* 751
Rimming Steel; on the Manufacture—*William R. Fleming* 532

S

Screw Steel; Grain-Size in Relation to Machinability and Other Properties of Bessemer Screw Steel—*H. W. Graham* 926
Sensitivity of the Gamma-Ray Method of Radiography—*John T. Norton and Alfred Ziegler* 271
Sheet Steel; Importance of Grain-Size of Sheet Steel for Deep Drawing —*Reid L. Kenyon* 1099
Silicon; The Composition and Critical Temperature of Pearlite Containing One Per Cent—*A. E. Schowalter and W. W. Delammatter with H. A. Schwartz* 120
Single-Step Long-Time Creep Results with Hatfield's Time-Yield Stress; Comparison of—*A. E. White and C. L. Clark* 481
Solid Solutions—The Incubation Period—Part I; Analogy Between Plastic Deformation and Certain Cooling Rates in Causing "Premature" Precipitation in Supersaturated—*J. L. Burns* 728
Solidification of Steel in Ingot Molds—*L. H. Nelson* 193
Some Factors Affecting the Physical Properties and Corrosion Resistonce of 18-8 Chromium-Nickel Steel Wire—*W. H. Wills and J. K. Findley* 1
Some Problems of Quenching Steel Cylinders—*Howard Scott* 68
Spring Materials with Temperature; Torsional Moduli Variations of—*Joseph W. Ludewig* 833
Stainless Steel and Ferrochromium; A Note on Chromium Oxide Inclusions in—*M. Baeyertz* 625
Steel Cylinders; Some Problems of Quenching—*Howard Scott* 68
Steel in Ingot Molds; Solidification of—*L. H. Nelson* 193
Steel for Permanent Magnets—Part II; Investigation of the Treatment of —*R. L. Dowdell* 19
Steel Wire; Some Factors Affecting the Physical Properties and Corrosion Resistance of 18-8 Chromium-Nickel—*W. H. Wills and J. K. Findley* 1
Steel; Application of Thermodynamics to the Deoxidation of Liquid Steel—*John Chipman* 385
Steel; Basic Open-Hearth Carbon Steel for Cold Heading—"Ingot to Wire"—*A. B. Arganbright* 471

Steel; Bright Annealing of Steel in Mixed Gas Atmospheres—*A. L. Marshall* 605
Steel; Effect of Cold Work on the Microstructure of Low Carbon Steel Tubes—*E. P. Polushkin* 635
Steel; Importance of Grain-Size of Sheet Steel for Deep Drawing—*Reid L. Kenyon* 1099
Steel; Influence of Grain-Size on Magnetic Properties—*W. E. Ruder* .. 1120
Steel; Effect of McQuaid-Ehn Grain-Size of Steel in Forging—*W. E. Sanders* 1051
Steel; Effects of McQuaid-Ehn Grain-Size on the Structure and Properties of Steel—*Philip Schane, Jr.* 1038
Steel; Grain-Size in Relation to Machinability and Other Properties of Bessemer Screw Steel—*H. W. Graham* 926
Steel; On the Manufacture of Rimming Steel—*William R. Fleming* 532
Steel; Microscopic Cracks in Hardened Steel, Their Effects and Elimination—*E. S. Davenport, E. L. Roff and E. C. Bain* 289
Steel; Note on Chromium Oxide Inclusions in Stainless Steel and Ferrochromium—*M. Baeyertz* 625
Steel; P-F Characteristic of Steel—*B. F. Shepherd* 979
Steel; The Structure and Constitution of an Alloy Steel—*Owen W. Ellis* 139
Steel; The Torsion Impact Properties of Hardened Carbon Tool Steel —*G. V. Luerssen and O. V. Greene* 311
Steels; Effect of McQuaid-Ehn Grain-Size on Hardness and Toughness of Automotive Steels—*H. W. McQuaid*..... 1017
Steels; Factors Determining the Impact Resistance of Hardened Carbon Steels—*Howard Scott* 1142
Steels; Grain-Size Control of Open-Hearth Carbon Steels—*S. Epstein, J. H. Nead and T. S. Washburn* 942
Stress; Comparison of Single-Step Long-Time Creep Results with Hatfield's Time-Yield—*A. E. White and C. L. Clark* 481
Structure and Constitution of an Alloy Steel—*Owen W. Ellis* 139
Structure and Properties of Steel; Effects of McQuaid-Ehn Grain-Size on the—*Philip Schane, Jr.* 1038
Study of Banding in a Chromium-Molybdenum Steel—*E. R. Johnson and W. J. Buechling* 249
Study of the Effect of Water Vapor on the Surface Decarburization of Steel by Hydrogen with Certain Developments in Gas Purification—*C. R. Austin* 31
Supercooled Solutions, with Special Regard to Austenite; The Habits and Laws of Decomposition of—*G. B. Upton* 690
Supersaturated Solid Solutions—The Incubation Period—Part I; Analogy Between Plastic Deformation and Certain Cooling Rates in Causing "Premature" Precipitation in—*J. L. Burns* 728
Surface Decarburization of Steel by Hydrogen with Certain Developments in Gas Purification; A Study of the Effect of Water Vapor on the—*C. R. Austin* 31

T

Thermal Expansion and Alpha-Gamma Transformation Temperature (A_3 point) of Pure Iron; Linear—*J. B. Austin and R. H. H. Pierce, Jr.* 447
Thermal Stresses on Austenite; Effect of—*H. P. Nielsen and R. L. Dowdell* 810
Thermodynamics to the Deoxidation of Liquid Steel; Application of—*John Chipman* 385
Time-Yield Stress; Comparison of Single-Step Long-Time Creep Results with Hatfield's—*A. E. White and C. L. Clark* 481
Torsion Impact Properties of Hardened Carbon Tool Steel—*G. V. Luerssen and O. V. Greene* 311
Torsional Moduli Variations of Spring Materials with Temperature—*Joseph W. Ludewig* 833
Tool Steel; The Torsion Impact Properties of Hardened Carbon—*G. V. Luerssen and O. V. Greene* 311

Tools as Influenced by Shape; The Life of Turning—*O. W. Boston and W. W. Gilbert* 547
Toughness of Automotive Steels; Effect of McQuaid-Ehn Grain-Size on Hardness—*H. W. McQuaid* 1017
Transfer Rates in Fuel-Furnaces; Heat—*M. H. Mawhinney* 673
Transformation Temperature (A_3 point) of Pure Iron; The Linear Thermal Expansion and Alpha-Gamma—*J. B. Austin and R. H. H. Pierce, Jr.* 447
Treatment of Steel for Permanent Magnets—Part II; Investigation of the —*R. L. Dowdell* 19
Tubes; Effect of Cold Work on the Microstructure of Low Carbon Steel —*E. P. Polushkin* 635
Tungsten-Manganese White Cast Iron; The Determination of the Rates of Graphitization at 925 Degrees Cent. in—*W. A. Pennington and W. H. Jennings* 751
Turning Tools as Influenced by Shape; The Life of—*O. W. Boston and W. W. Gilbert* 547

W

Water Vapor; A Study of the Effect of Water Vapor on the Surface Decarburization of Steel by Hydrogen with Certain Developments in Gas Purification—*C. R. Austin* 31
Wire; Some Factors Affecting the Physical Properties and Corrosion Resistance of 18-8 Chromium-Nickel Steel—*W. H. Wills and J. K. Findley* 1
X-Ray Line Broadness of Metals and Alloys and its Relation to High Temperature Stability—*J. E. Wilson and L. Thomassen* 769

547

1017
673

447

19

635

751

547

31

1

769